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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)					
Given Name (first and middle [if any])		Family Name or Surname		Residence (City and either State or Foreign Country)	
Andrew Gary Boyd		Silver Stephens		Dallas, TX Allen, TX	
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (280 characters max)					
Enhanced Services/Call Delivery Using the GPRS/IS-136 Location					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input checked="" type="checkbox"/> Customer Number		021498		Place Customer Number Bar Code Label here	
OR Type Customer Number here					
<input checked="" type="checkbox"/> Firm or Individual Name		Kenneth W. Bolvin, Northern Telecom			
Address					
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Telephone		(972)685-7096		Fax	(972)-685-3030
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages		7		<input type="checkbox"/> Small Entity Statement	
<input type="checkbox"/> Drawing(s) Number of Sheets				<input type="checkbox"/> Other (specify)	
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees				FILING FEE AMOUNT (\$)	
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 50-0210				150	
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input checked="" type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

SIGNATURE Kenneth W. Bolvin

Date 7/24/98

TYPED or PRINTED NAME Kenneth W. Bolvin

REGISTRATION NO. 34,125

TELEPHONE (972) 685-7096

(if appropriate)
Docket Number: RR2574

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Silver, Andrew; Stephens, Gary Boyd
Serial No.: Unknown
Filed: 07/24/1998
For: Enhanced Services/Call Delivery Using the GPRS/IS-136 Location

Assistant Commissioner for Patents
Washington, D.C. 20231

EXPRESS MAIL CERTIFICATE

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Provisional

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10, on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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Invention disclosure submission
Complete all sections and send to the Nortel Patent Dept at:
OTTAWA, Canada: Patent Dept., 0265, NTPAT
or HARLOW, UK: Patent Dept., HAL05
or RICHARDSON, USA: Patent Dept., Mail Stop C-0419, RICH1

No. RR2574
Rec'd. 21 Jul 98
Attny/Agent

NORTEL
NORTHERN TELECOM

Invention Title

Enhanced Services/Call Delivery using the GPRS/IS-136 Location

Correspondence will be directed to the first-named inventor only.

(1) Full legal name of first inventor (include middle initial)				Residence and post office address if different	
Silver Andrew N/A				10661 Steppington DR #1087 Dallas, TX 75230	
Name usually known as: Andrew					
Global ID 0523101					
Phone 6-445-6334	Location RICHARD	Department 5889	Mailstop	Occupation PLM	Fax 6-444-3881
Signature			Date	Citizen of CANADA	

(2) Name of supervisor or divisional head		(5) Project Number
Victor Quintana		
Name of AVP Reported to: Alastair Westgarth		(6) Indicate your LOB Wireless Networks
Signature	Date	If Advanced Technology, please indicate which group. Please Make a Selection

Technical field

(3) Date of first written description:	Key words for searching GPRS, IS-136, IS-136+, ANSI-41, SGSN
Has this invention been discussed with others? If so, please complete.	Are you aware of any imminent future disclosures? Please detail. Yes, this idea will be proposed as part of a standards contribution for the GPRS/IS-136 mobile data feature.
Outside Nortel To Whom? When?	
Was there a Non-Disclosure Agreement in place?	
Inside Nortel To Whom? When?	

(4) Which products will use this invention? North American standards wireless switch products.	(7) Is the invention relevant to a Standards activity? yes If so give details: We will be proposing that this idea be incorporated into the GPRS/IS-136 standards in a TR45.2 meeting that will be held July 28th. That is next week!!!
	(8) Does this invention arise from any arrangement involving any external organization? no Organization Contract no.

(a) Brief description of the invention

Enhanced Services using the GPRS/IS-136 Location. The example that prompted this invention is using the PCCH location (i.e. the location of the mobile in the data network) to provide enhanced prediction of where the mobile will likely appear during voice transactions for call delivery. The capability can also be used to provide location based services. Since phones that are in data mode are only known by location in the data network, any location based services will need to be based on the knowledge of where the mobile is in the data network, even if they are voice based services. The general idea is to use the GPRS location information to provide ANSI-41 location based services. In this case, we are including call delivery in location based services, because call delivery can take advantage of this information to provide an enhanced call delivery, providing faster call delivery with less network resources utilized.

(b) What is the problem solved by the invention?

If this idea is not utilized, location based services will not function properly when the mobile is in data mode.

(c) What other solutions have been tried and what were their shortcomings?

I am not aware of any other solutions that have been considered/presented to take advantage of the mobile's location in the data network to provide ANSI-41/voice location based services. Note that the GPRS/IS-136 is the first data standard that this might apply to, but not the only one. The GPRS/IS-136 architecture is currently being developed. Due to the architecture being so new, it is unlikely others have tried to resolve all the implications yet.

(d) What are the specific elements or steps that solved the problem. Please provide high level details.

There is a variety of situations here, since the invention is using data based location information in the voice network to provide various location based services including call delivery. We will describe two.

Call Delivery:

For call delivery, when we are going to page the mobile, the SGSN will provide the last known location information to the voice network, which will use the information to setup the call ahead of time to the switch that will probably receive the mobile's page response. This both saves resources and decreases elapsed time before the mobile starts ringing. It can also be used to provide location based terminating services.

Location based SMS:

The current location in the data network will be needed to provide SMS messages that are intended for mobiles in a particular area. For example, if a carrier wants to inform users on the highway that there is a wreck up ahead, the carrier will need to know which mobiles in the data network are currently on/near that highway.

What is the commercial value of the invention to Nortel and Nortel's major competitors? (see guidelines)

It is clear that there are many situations evolving in the network in which utilizing the current location of the mobile is required. For many location based services, using that location will be required or the service will not be available for those mobiles. Thus, this capability is of high value for any location based service that the user wishes to receive while in data mode.

This invention is also useful to provide enhancements to the network operations, like the reduced elapsed time and saved resources that can be provided during call delivery scenarios. This is particularly important in the new GPRS/IS-136 architecture because it is anticipated that the new architecture will otherwise be slower than a standard voice network (for termination), thus diminishing the attractiveness of the new data offering.

Additional Inventors / Contractor Information

No. RR2574

(1) Full legal name of first inventor (include middle initial)				Residence address (and post office address if different)	
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Global ID 0523101				Dallas, TX 75230	
Phone 6-445-6334	Location RICHARDS	Department 5889	Mailstop	Occupation PLM	Fax 6-444-3881

Signature	Date	Citizen of CANADA
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Contractor Information		Any other agreement(s) with your agency.
Agency worked for		Please Make a Selection
Non disclosure agreement with Nortel Please Make a Selection		Please specify
Exhibit B of the Master Services agreement with your agency Please Make a Selection		

(1) Full legal name of 2nd inventor (include middle initial)				Residence address (and post office address if different)	
Stephens Gary Boyd 1542444				822 Deerlake DR	
				Allen, TX 75002-5055	
Phone 6-444-4650	Location RICHARD	Department 2K60	Mailstop	Occupation Senior Advisor	Fax 6-444-3739

Signature	Date	Citizen of USA
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Contractor Information		Any other agreement(s) with your agency.
Agency worked for		Please Make a Selection
Non disclosure agreement with Nortel Please Make a Selection		Please specify
Exhibit B of the Master Services agreement with your agency Please Make a Selection		

(1) Full legal name of 3rd inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax

Signature	Date	Citizen of
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Contractor Information		Any other agreement(s) with your agency.
Agency worked for		Please Make a Selection
Non disclosure agreement with Nortel Please Make a Selection		Please specify
Exhibit B of the Master Services agreement with your agency Please Make a Selection		

(1) Full legal name of 4th inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax

Signature	Date	Citizen of
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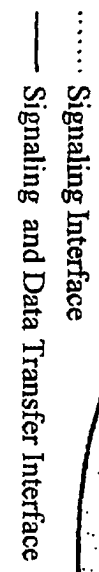
Contractor Information		Any other agreement(s) with your agency.
Agency worked for		
Non disclosure agreement with Nortel Please Make a Selection		Please specify
Exhibit B of the Master Services agreement with your agency Please Make a Selection		Please Make a Selection

(1) Full legal name of 5th inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax
Signature		Date		Citizen of	
Contractor Information				Any other agreement(s) with your agency.	
Agency worked for				Please Make a Selection	
Non disclosure agreement with Nortel				Please specify	
Please Make a Selection					
Exhibit B of the Master Services agreement with your agency					
Please Make a Selection					

(1) Full legal name of 6th inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax
Signature		Date		Citizen of	
Contractor Information				Any other agreement(s) with your agency.	
Agency worked for				Please Make a Selection	
Non disclosure agreement with Nortel				Please specify	
Please Make a Selection					
Exhibit B of the Master Services agreement with your agency					
Please Make a Selection					

(1) Full legal name of 7th inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax
Signature		Date		Citizen of	
Contractor Information				Any other agreement(s) with your agency.	
Agency worked for				Please Make a Selection	
Non disclosure agreement with Nortel				Please specify	
Please Make a Selection					
Exhibit B of the Master Services agreement with your agency					
Please Make a Selection					

(1) Full legal name of 8th inventor (include middle initial)				Residence address (and post office address if different)	
Phone	Location	Department	Mailstop	Occupation	Fax
Signature		Date		Citizen of	
Contractor Information				Any other agreement(s) with your agency.	
Agency worked for				Please Make a Selection	
Non disclosure agreement with Nortel				Please specify	
Please Make a Selection					
Exhibit B of the Master Services agreement with your agency					
Please Make a Selection					



THE UNIVERSITY OF CHICAGO

setting up the call in response to the location, the call being set up prior to paging by the radiotelephone.

the wireless network providing selective information to the radiotelephone in response to the location.